REVISED STATISTICAL ANALYSIS OF THE INCIDENCE OF POLICE STOPS AND ARRESTS OF BLACK DRIVERS/TRAVELERS ON THE NEW JERSEY TURNPIKE BETWEEN EXITS OR INTERCHANGES 1 AND 3 FROM THE YEARS 1988 THROUGH 1991

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1. Introduction

I am Chairman of the Department of Psychology at Temple University, Philadelphia Pennsylvania, and am past Director of the Division of Social Psychology at the same university. I have served on the faculty of Temple University in the Department of Psychology since 1973.

I have had extensive professional and academic experience with the design and use of statistically valid surveys, random sampling techniques, and the analysis and use of statistically-based measures of significance derived from survey, census and sample data.[1] I have been qualified as an expert witness in statistics, surveying and social psychology in the United States District Courts for new Jersey and Virginia and in state courts in New jersey and Virginia.

I make this report in connection with 26 criminal cases pending against black defendants in Gloucester County, New Jersey, arising from arrests between the years 1988 and 1991 on the New Jersey Turnpike. Defense counsel have retained me to design and conduct a study and analysis of the incidence of police stops and police arrests of black[2] persons traveling on the New Jersey Turnpike between Interchanges 1 and 3.[3]

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[1] For a full recitation of my credentials, employment and experience please refer to my curriculum vitae attached hereto as Exhibit A.

[2] Throughout this report, I utilize the rubric "black" rather than "Afro-American" or other designations because that designation includes all persons of "black" appearance, whether or not of African Ancestry e.g., so-called "Black Hispanics" (a State Police term) which includes Caribbean peoples.

[3] Troopers from the Moorestown State Police Barracks patrol the subject portion of the Turnpike.

The overall goal of this study is to determine if the State Police stop, investigate and arrest black travelers at rates significantly disproportionate to the percentage of blacks in the traveling population, so as to suggest the existence of a policy—official or de facto—of targeting blacks for investigation and arrest.

On an anecdotal basis, the Public Defenders Office of Gloucester County has observed that a strikingly high proportion of cases arising from stops and searches on the New Jersey Turnpike involve black persons, far out of proportion to the numbers of blacks in the general population. Counsel for the defendants have asserted that in the relevant time period the New Jersey State Police were acting pursuant to either an officially sanctioned or a de facto policy of discriminatorily targeting blacks, and/or blacks from out-of-state, for investigation and arrest on the New Jersey Turnpike.

I have assisted in the design and conduct of a study to test the proposition, inter alia, that the State Police were stopping black motorists (and/or black out of state motorists) in statistically significantly higher numbers than one would expect to find given;

a) The black population in the eastern United States as a percentage of the entire population; and
b) The racial composition of the population traveling the Turnpike; and
c) The racial composition of the population of turnpike travelers who violate the traffic laws.

Through examination of state police files and our own census date, the study seeks to determine the following:

1. The racial distribution and in-state/out-of-state distribution of the traveling public on the New Jersey Turnpike in the relevant area between Interchanges 1 and 3; and
2. The racial composition of the same population of the traveling public who would appear to violate the traffic laws of the State of New Jersey;[4]
3. The numbers of arrests documented in State Police records, and the distribution of those arrests among racial groups, focusing primarily on black, as opposed to "all others" (e.g. white or Caucasian, so-called "white Hispanic", etc.);
4. The distribution among racial groups of so-called "stops" of cars by the New Jersey State Police along the relevant portion of the Turnpike, when said "stops" did not lead to arrest;
5. The racial distribution of both arrests and stops with respect to state of registration of the motor vehicle that is the subject of the stop, with specific focus on whether the state of registration was "New Jersey" or "out-of-state."

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[4] As violators of the traffic laws, such persons presumably are all subject to police stop. See State v. Kennedy, 588 A.2d 384, 247 N.J. Super. 21 (App. Div. 1991) I note that a New Jersey appellate court has stated that such statistics – the racial composition of the population of those traveling the turnpike who violate the traffic laws – should be assembled in a study seeking to prove discriminatory enforcement. I understand that no such information was in fact submitted to the Court in Kennedy, despite the implication in the reported opinion that such a submission was made. See Certification of Marsha Wenk, included herein as Exhibit B.

2. STATEMENT OF THE DATA SOURCES UPON WHICH THIS STUDY IS BASED

A. Data supplied by the State Police

1. Arrest Reports.

The first large pool of data which I have considered comes from the arrest report files of the State Police. Under a discovery order, the State Police provided 1128 arrest reports, which the State represents to be copies of all investigation reports prepared by Troopers assigned to the Moorestown Station of the New Jersey State Police patrolling the New Jersey Turnpike for the period from April 19, 1988 through May 18, 1991. In an earlier report, different numbers were reported. At that time, I was relying on data entered and dated by employees of Tomar, Simonoff, Adourian & O'Brien. There were mistakes in those data, although in most instances percentages are approximately equal. An initial inventory sheet prepared by the State Police claimed to provide in excess of 1500 arrest reports; paralegals from the firm of Tomar, Simonoff, Adourian & O'Brien, counsel to one of the defendants, have tabulated the data from these arrest reports and have discovered that only 1128 were produced.

These arrest reports provide substantial identifying data for the vast majority of the individuals subjected to arrest. Each arrest "event" is memorialized on a report, including but not limited to racial identification and State of registration/license tag. The reports utilize a code to denote the race of the driver and/or occupants of the vehicles, and based on a key to that code provided by the Gloucester County Prosecutor's Office, we have tallied the numbers of arrests involving the following subgroups:

Blacks

Black Hispanics

Whites

White Hispanics

2. Patrol Activity Logs

Under the discovery order, the State provided Patrol Activity Logs for 35 randomly selected days during the relevant time period; these dates are as follows:

July 8, 1990

July 14, 1988

January 2, 1991

June 23, 1988

October 30, 1989

February 20, 1989

November 10, 1988

August 9, 1988

May 4, 1989

September 13, 1989

August 8, 1990

April 15, 1989

November 21, 1989

April 14, 1990

February 6, 1990

February 18, 1991

May 24, 1988

June 15, 1990

August 10, 1989

June 4, 1988

January 24, 1990

June 29, 1989

November 27, 1990

September 1, 1988

May 6, 1991

April 20, 1989

March 7, 1989

June 16, 1990

July 8, 1988

February 12, 1991

August 20, 1988

October 7, 1989

May 8, 1988

October 17, 1990

November 2, 1990

These dates were the product of a random selection generated by a consultant retained at the inception of the study. I have reviewed the manner in which these dates were selected and I find it to be satisfactorily random so that the data thereby generated may be relied upon in accordance with established and accepted procedures, standards and methods of social science statisticians who utilize survey and census data.

3. Police radio logs

Under the discovery order, the State Police provided Police Radio Logs, which represent or memorialize the content of radio transmissions from the State Police cars to a central dispatcher, for all of the above noted dates, except for the 1988 dates.[5]

B. Data Gathered/Supplied by the Defense.

Turnpike Population Census.

Observers, Investigators and Counsel from the Public Defenders Office have conducted a census of the population on the turnpike. I assisted in the design and implementation of the plan to gather statistically appropriate data from the relevant section of the Turnpike to sample in a random and statistically valid and usable manner, the distribution of the Turnpike population by race of occupants and state of license tag (registration). In accordance with my instructions, the traffic census was carried out between June 11 and June 24, 1993, between the hours of 8:00 a.m. and 8:00 p.m.[6] (Most

[5] It has been represented to me that the State Police have destroyed the radio logs from the 1988 dates so that we have only 1989, 1990 and 1991 radio logs, for a total of 25 days of radio logs.

[6] It may be argued that it is unfair to compare a present-day census of the turnpike populations with an arrest population generated between 1988 and 1991. National census data, upon which statisticians and persons in statistics-related professions rely as a customary, usual and ordinary procedure, almost always suffers from an arguable staleness, in that it is gathered once every ten years but is utilized routinely as the basis of statistical analyses and studies. With respect to various states from the eastern United States that are highly represented in this arrest population, the black populations as a percentage of the total population in general has been increasing since 1980. Given this trend, one reasonable assumes that a traffic census taken in June 1993 would contain more blacks than a census taken between 1988-91. That is, blacks are a higher percentage on the population base today than they were in 1988, 1989, 1990 and 1991. Thus, to say that from a traffic census taken in June of 1993 that the population of blacks traveling on the

if not all of the 26 pending cases in Gloucester County Superior Court arose between these hours).

Observers were stationed on the New Jersey Turnpike at Mile Post 13.4 for approximately one hour and 15 minutes and at Mile Post 5.4 for approximately one hour and 15 minutes observing southbound cars. Eighteen sessions were conducted with the dates and times randomly selected by me, in accordance with professionally established and accepted procedures and methods. Three sessions were conducted northbound at Mile Post 5.4 for one hour and 15 minutes and at Mile Post 13.4 for one hour and 15 minutes as a check to ensure that northbound traffic did not differ substantially or in any material manner from southbound traffic. The observation teams were instructed to note the race of the driver and/or any visible occupants, along with the State of registration. Depending upon the location and the permit obtained from the NJ Turnpike Authority, the observers were stationed 14 to 45 feet from the traveled portion of the roadway, with unobstructed views affording a suitable period of visibility to observe the required data about the passing cars. The observation teams report a high degree of confidence and accuracy in their results in that their vantage points afforded them, according to the reports I have received, ample opportunity both to view each car and then for a member of the team to note both the racial composition of the driver/occupants plus the state of registration of the passing car.

New Jersey Turnpike is 13.5% if anything may well overstate the black percentage of the traveling public in 1988, 1989, 1990 and 1991. Trends of increase visible in the United States census (done every ten years) rarely reverse themselves over a short period of time.

Members of the Public Defenders Office in Gloucester County have tabulated and summarized the field reports; I have aggregated the summaries and checked where appropriate for arithmetic accuracy. I am satisfied that the data is reliable and of the kind commonly utilized by persons with my training and experience to form the basis for statistical analysis and opinions emerging from that analysis.

Turnpike Traffic Violator Census

At the Inception of this study, I assumed that the racial composition of the population of travelers on the New Jersey Turnpike would be materially the same as the population of traffic law violators. I have made that assumption based on the propositions that blacks and persons of other races (1) are supposed to enjoy equality before the law and (2) are not materially different in motor, neural and perceptual skills as they bear on the capacity to drive. That is to say, I have assumed that there is no meaningful difference in the driving abilities or capacities of black motorists as opposed to all others. Thus, we have assumed at least from the outset that the population of traffic violators on the New Jersey Turnpike will mirror the population of travelers, at least as to racial distribution.

To test this assumption that the population of turnpike traffic violators will mirror the population of travelers as a whole on the New Jersey Turnpike, we have taken a secondary census to determine the percentage of cars violating the traffic laws of New Jersey on the New Jersey Turnpike in the relevant section of the roadway. This census has been designed in a manner satisfactory to me and has generated data that I consider reliable and of the kind normally and commonly used by experts in the fields utilizing sample or survey data to perform statistical analyses, according to established methods

and procedures. For a detailed description of the methodology of this study, please see Exhibit C attached hereto, the Report and Summary by Fred Last, Esquire.

3. DELINEATION/SUMMARY OF THE CONTENTS OF EACH DATA SOURCE

A. The Traffic Census

During the observation times set forth, supra, 42,706 cars went past the observation posts. For 99.3% of the cars, the observers ascertained whether the registration/license tag was from New Jersey or from another state not New Jersey. With regard to race, the observers ascertained that there either was or was not a black person in the car for 42,522 of the cars, or 99.6% of the cars. This is an extremely thorough and well executed set of observation, with almost no "undetermined". It was, moreover, conducted in a manner consistent with and conforming to the standards, procedures and practices which persons expert in the field of statistical sampling and statistical analysis customarily utilize and upon which they place reliance.

A summary of observations is as follows:

Date	Time	In-State	Out of State	Black	Non-Black
6/11	2:00pm	340	988	129	1206
6/11	3:45pm	384	1077	158	1296
6/12	2:10pm	257	660	152	769
6/12	3:45pm	161	667	150	683
6/13	8:00am	181	473	150	512
6/13	9:45am	264	734	184	819

6/13	5:00pm	144	1518	258	1420
6/13	6:40pm	133	1222	222	1156
6/14	11:00am	153	600	78	675
6/14	1:00pm	161	799	99	862
6/15	5:00pm	241	532	73	703
6/15	6:45pm	100	450	85	467
6/16	2:00pm	130	594	79	644
6/16	3:45pm	129	632	83	678
6/17	8:00am	262	374	84	552
6/17	9:45am	281438	83	83	635
6/17	11:10am[1]	116	828	79	865
6/17	12:50pm[1]	241	980	133	1084
6/18	8:05am	331	599	147	783
6/18	9:45am	366	723	167	918
6/18	5:00pm	643	1260	210	1691
6/18	6:45pm	466	957	279	1151
6/19	11:00am	500	1116	239	1378
6/19	12:45am	299	931	176	1054
6/19	5:00pm	202	655	160	703

1 Indicates northbound session

6/19	7:00pm[2]	44	264	74	238
6/20	2:00pm	226	1489	239	1489
6/20	3:45pm	175	1728	219	1704
6/21	8:00am	300	699	123	876
6/21	9:45am	290	743	139	890
6/21	5:00pm	211	753	100	869
6/21	6:45pm[2]	61	359	65	355
6/22	11:00am	202	626	100	727
6/22	12:45pm	164	750	101	814
6/22	5:00pm[1]	289	521	132	677
6/22	6:45pm	202	438	118	524
6/23	8:00am	296	381	93	586
6/23	9:45am	285	486	116	655
6/23	2:10pm[1]	201	670	121	752
6/23	3:45pm[1]	355	700	118	939
6/24	11:00am	223	677	94	809
6/24	12:45pm	232	1069	140	1165

Table1. Number of out of state and New Jersey cars and number of cars containing at least one Black person and those containing no Black people passing the observation points in the traffic census conducted by the PD's office.

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1. Indicates northbound session

[2] Session was shortened because of thunderstorms and poor visibility

The census thus reveals the following:

Out of State Registered Cars 75.85%

In State Cars 24.15%

Census by Race:

Cars not containing a black occupant: 86.35%

Cars containing at least one black occupant: 13.65%

The above stated racial percentages were from the observation posts observing southbound traffic. The observations and tallies from the northbound observations are materially equal. With respect to northbound the figures are as follows:

Cars not containing a black occupant: 87.4%

Cars with at least one black occupant: 12.6%

I have carefully reviewed both the design of the traffic census and the narrative and tally reports from that census. Moreover, I consulted in the course of that census with the supervisor in charge of the observation teams. I am comfortable with the methodology employed, utilizing stationary observation points that were well located for visibility and utilizing multiple members of the team to ensure against fatigue and to ensure that there were sufficient persons on hand both to observe the events and to record them accurately.

I should note that because of difficulties initially encountered is gaining access to the turnpike, it was proposed that a rolling or moving survey be done, that would avoid stationing observation teams on the roadside. I believed that stationary observation posts are more likely to produce a large and reliable sample over a multiple day period with respect to the race and state of registration data than a moving observation post. I insisted

that counsel do everything possible to obtain the right to make such observations from stationary points; I understand that after many negotiations those observation posts were approved.

For a full description of how this survey was conducted, see Exhibit D, Report of Fred Last of the Public Defenders Office.

B. Turnpike Violation Census

Visual observation of turnpike traffic from stationary observation posts created the strong impression in the observers that the traffic was generally traveling in excess of posted speed limits. In attempting to verify the extent of the population or sub-population of traffic law violators on the turnpike within the turnpike population as a whole, we sought to design a secondary census to test two propositions: (1) that virtually all cars on the turnpike are violating the traffic laws; and (2) that the racial distribution of the population violating the traffic laws will largely replicate the racial distribution of the traveling population as a whole. In order to test these propositions, we did rely on a moving or mobile observation post.

Methodology: The methodology of this moving survey is set forth more fully in Exhibit F, Report of Fred Last, Esquire of the Public Defender's Office in Gloucester County. In summary, we utilized a car with cruise control; the accuracy of the speedometer was timed with an electronic stop watch as against Turnpike mileage posts. We placed that car in motion on the turnpike moving at 60 miles per hour. The object of our proceeding at that pace was to count the number and percentage of cars during a timed session, which passed the observation car and thus were traveling at speeds in excess of 60 miles per hour. At all locations involved, the posted speed limit was 55 miles per hour. We sought to ascertain the percentage of the entire population of cars

that was proceeding faster than 60 miles per hour and thus was violating the traffic laws of New Jersey. We further sought a racial breakdown of the violators. The results can be summarized in the following table.

Turnpike Violation Census

Date	Time	Black Violators	Non-Black Violators	Black Non-Violators	Non-Black Non-Violators
7/11/93	2:45pm	64	234	1	1
7/11/93	5:00pm	62	328	2	7
7/12/93	8:00am	11	119	0	5
7/12/93	2:10pm	28	161	1	2
7/12/93	5:00pm	26	139	1	3
7/13/93	11:10am	14	78	0	1
7/13/93	2:00pm	26	137	1	1
7/13/93	5:00pm	10	94	1	1
7/14/93	8:00am	11	95	0	0
7/14/93	11:00am	10	87	0	6

Table 2. Vehicles traveling on the New Jersey Turnpike between Exits 1 and 3 violating the traffic laws by race of occupants.

Arrest Reports.

Methodology:

In consultation with counsel, I designated a group of items of information which could and should be derived from each arrest report. Those items included, without

limitation: racial identifying data for the driver and occupant(s), if any, of each vehicle; date of the stops, state of registration of the vehicle, reason for the stop; and identity of the Trooper. Employees of the law office of Tomar, Simonoff, Adourian & O'Brien[7] digested each arrest report according to a uniform agreed-upon format. This process has resulted in the construction of a "data base", a common practice in my field.

Arrest Reports

Results

Of the 1128 reports made available and abstracted, 1059 denoted the race of the driver and/or occupants. If any adult occupant of the car was black, the car was denoted as a car bearing black occupants or driver. The breakdown and distribution of the 1059 arrests by racial group was as follows:

Racial Group	Number of Arrests	Total Race Identified Arrests (% of 1059 Events)
Blacks	775	73.2%
Whites	280	26.4%
Asian	4	0.4%

That is to say, over the relevant period, based on the data supplied by the State Police, 73.2% of the arrested individuals or individuals who were the subject of "stops" and investigation and ultimately arrested were black.

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[7] Counsel for Defendant Kevin Jackson

C. The Patrol and Radio Logs

The methodology for digesting, abstracting and tabulating the data from the patrol activity logs and the radio logs essentially the same as for the Arrest reports. The only differences arise from the fact that the arrest reports contain many more items of information which have been abstracted and cataloged; the patrol activity logs contain only five or six pieces of information which can be so abstracted and the same is true of the radio logs.

The patrol logs record events at stated times during the day documented on the log; the entries on the logs are made by the trooper or pair of troopers operating the particular patrol car on the day stated. For each event denominated as a "stop" or which by its context clearly represents a "stop" of a vehicle, we have created one record in the computerized data base. As the dates of the patrol activity logs and the radio logs correspond, there appears to be some correspondence between the numbers and details of the events mentioned on the patrol logs with the radio logs. That is, the same events are frequently, if not always, reported on the radio logs and patrol logs.

Patrol and Radio Logs Summary

The patrol and radio activity logs record 2794 events and "stops". The overwhelming majority of the universe of recorded "stops" do not result in arrests. The following table sets forth the breakdown by State or registration of these "stops", along with a category of "other" for unnamed states or states that are not named in the table. The principle figure to be gleaned from these numbers concerns the percentage of "stops" directed against New Jersey drivers as opposed to out-of-state drivers. Almost no racial

data is included in the patrol activity logs, so that no inferences can be drawn with respect to racial composition of the "stop" population based on the patrol activity logs.

State	Stops by State
CT	83
DC	56
DE	87
FL	126
GA	30
MA	87
MD	212
NC	128
NJ	666
NY	672
PA	265
SC	37
VA	241
OTHER	206
TOTAL	2896 (78 entries had no state noted)

When the patrol and radio logs are considered, there are 2896 stops reported which record state of origin. Of these, 666 were from New Jersey drivers (23.0%) and 2230 (77.0%) from other states.

With respect to the patrol activity logs, the patrolling officers rarely if ever noted the race or racial composition of the occupants of the vehicle stopped. With respect to the radio logs, however, notation as to the race of the occupants of the stopped vehicle appear about one-third of the time. It should be noted that the radio logs for 29% of the days (those for 1988) had been destroyed. This means that race could not be identified for many stops and that more than one-third of the stops could have been race-identified if the logs had not been destroyed. These notations create a substantial body of data relevant to the racial composition of the "stops". The following table provides racial data recorded from both patrol and radio logs.

Race	Number
Asian	29
Black	326
Hispanic	43
White	532
Other	3
Unknown	2041
Total	2974

The most significant information thus derived from the radio logs is the race of the individuals occupying the cars that have been stopped. In 933 stops recorded, there is a racial identifier used, e.g., and initial such as"B" or "W" or "WF" or "BF" or "HISP". I am informed through the report of a former State Trooper that these are commonly utilized initials that stand for "Black", "Black Female", "White", "White Female",

"Hispanic" and so forth. See Certification of Ken Wilson, submitted in conjunction with this Report.

In calculating the racial composition of the radio and patrol log's population of stopped travelers, we have counted the Hispanics, Asians and Eskimos as "non-black"; we have thus calculated the percentage of blacks stopped by taking the number of motorists denoted as "blacks" in the radio logs and dividing it by the total number of racially identified stops:

Blacks as a percentage of those stopped:

Stops of Blacks: 326

All stops of racially identified persons: 933

Blacks as a % of all racially identified stops: 34.9%

(I have not considered those stops where the log entry does not note the race of the driver)

We have also compiled the composition of the population of stopped motorists by state of registration, and by the combined factors of race and state of registration.

By Absolute Numbers

56 stops of Blacks with New Jersey plates

262 stops of Blacks with out of state plates

906 stops of racially identified persons

By percentage

Out of state blacks as a percentage of all (race identified) stops: 28.9%

In state blacks as a percentage of all race-identified stops: 6.18%

Analysis and Conclusions:

Arrests:

With regard to race, 73.2% of those individuals arrested were black, in contrast to 13.5% of the cars in the traffic census containing a black driver or occupant. The disparity between the rate of arrests of blacks 73.2%, and the rate of cars with blacks in them in the turnpike population as a whole, 13.5%, is statistically vast (a multiple of about 5). The absolute disparity is 59.7%, the comparative disparity is 442% and is highly statistically significant. Absolute and comparative disparities of these dimensions unquestionably have been accepted by appropriate experts in a variety of circumstances as evidence of discriminatory impact and discrimination. The magnitude of the disparities lends overwhelming support to the assertion of discriminatory policy.

Given the number of standard deviations present in this analysis – 54.27 – the probability of there existing such disparity as a result of randomness, without regard to race, is infinitesimally small.[8] That is to say, the probability of 73.2% of the arrested individuals over a three year period coming from a racial group that comprises only 13.5% of the turnpike population (or 14.5% of the population of traffic law violators) is

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[8] The state's experts suggest in their report that Blacks are arrested in Philadelphia, Camden, Newark, Trenton, and New Brunswick at a much higher rate than Whites. A more appropriate benchmark would be the rage at which Blacks use drugs – approximately 12-14% of those who use drugs are Blacks, according to the National Institute on Drug Abuse.

substantially less than one in one billion. That is to say, there is much less than one in a billion chance that it would come out this way if it were purely random. This is assuming, of course, that blacks do not commit the crimes for which they are arrested with greater frequency that Whites.

With regard to the arrest data, it is possible that this is not the totality of the troopers who are arresting Blacks at a high rate, but that a few of the troopers are over-arresting Blacks. To determine whether the practice is widespread, the number and percentage of Blacks arrested by each trooper was determined. The following table shows that number of Blacks arrested by each trooper who arrested at least 10 people during this time and the percentage of total arrests for that trooper who were black.

Trooper	Total Arrests	Blacks Arrested	% Blacks Arrested
Campbell, J.M	22	10	45.5
Costil, D.	46	36	78.3
Cuifolo, F.	10	4	40.0
Dalton, T.	21	20	95.2
DiSalvatore, A.	24	18	75.0
Grant, J.	15	10	66.7
Higginbotham, C.	10	7	70.0
Hower, W.	12	8	66.7
Kerchersky, T.	87	60	69.0
Larkins, J.	14	8	57.1
Lutgen, R.	22	8	36.4
Maffei, A.	14	8	57.1

May, K.	11	5	45.5
Mitchell, M.	14	10	71.4
Nemeth, D.	10	6	60.0
Nepi, N.	40	32	80.0
Norcross, R.	23	15	65.2
Nuel, R.	18	12	66.7
Pennypacker, J.	101	75	74.3
Pressley, B.	28	12	42.9
Reilly, S.	36	29	80.6
Robb, W.	20	14	70.0
Saiia, S.	15	11	73.3
Simpson, E.	94	70	74.5
Spirit, P.	83	66	79.5
Sweeney, W.T.	15	8	53.3
Temple, M.	23	17	73.9
Thomas, A.	45	28	62.2
Tully, D.	82	70	85.4
White, D.	14	8	57.1

The trooper who arrests Blacks at the lowest rate arrests them at more than 2.5 times the rate at which they travel the highway. It should be noted that the arrests tables above are for the entire patrol area, not just the area in which the survey was conducted.

However, Blacks are arrested at a slightly higher rate in the survey area as opposed to outside it.

Radio and Patrol Logs

When the radio and patrol logs are considered it is seen that there are 2896 stops with state of origin reported. Of these 666 were from New Jersey (23.0%) and 2230 (77.0%) from other States. Considered on a race-neutral basis (without regard to the racial composition of the in-state cohort versus the out of state cohort of stopped vehicles) the rate at which cars are stopped does not differ from the rate of New Jersey and out-of-state cars as a whole in the 1993 Turnpike Traffic Census.

By comparing patrol and radio logs it is possible to obtain racial data. Of these stops which form the available pool of data, approximately 35% (34.9%) are black. The disparity between the percentage of blacks in the stopped population (34.9%) and the percentage of blacks in the general turnpike population (13.5%) (or the general population of turnpike traffic violators, 14.5%) is great.—on the order of 2.6 times as cars in the census. The absolute disparity is 21.4% and a comparative disparity of 159%. The number of standard deviation is 19.45.

STOPS BETWEEN EXITS 3 AND 1

The data provided to the defense is for most of the activity by the troopers ranging to Exit 6. One comparison that is necessary is the activity of the troopers in the area where the traffic survey was done. There were 870 stops identified on the patrol and radio logs between Exits 3 and 1. Of those, 221 were race identified. The following is the breakdown for the race identified stops that occurred between Exits 3 and 1.

Race	Frequency	Percent
White	105	47.5
Black	98	44.3
Other	18	8.1
Total	221	99.9

It is apparent that the troopers stopped Blacks at a somewhat higher rate between Exists 3 and 1 than they did on other parts of their territory. The difference between the rate at which Blacks are stopped between Exits 3 and 1 and the rate at which they travel the turnpike is great. The absolute disparity is 30.8%, the comparative disparity is 228% and the number of standard deviations is 13.39.

TOTAL STOPS REPORTED

In light of the general turnpike population census, the probability of this outcome – that 34.9% of the cars stopped on the randomly selected days would have black occupants – is substantially less than one in one billion. That is to say, if these stops were being done on a purely random basis without regard to race, the probability of this kind of divergence between racial distribution in the stop population and racial distribution in the highway census is much less than one in one billion. If this set of variables repeated themselves one billion times, we would expect to get the outcome we have here less than one time, if indeed the stops were the product of random or unbiased enforcement of the traffic laws. Absent some other explanation for the dramatically disproportionate number of stops of blacks, it would appear that the race of the occupants and/or drivers of the cars is a decisive factor or a factor with great explanatory power. I can say to a reasonable

degree of statistical probability that the disparity outlined here is strongly consistent with the existence of a discriminatory policy, official or de facto, of targeting blacks for stop and investigation. Of course, this assumes that the population of drivers on the New Jersey Turnpike who violate the traffic laws and thus, according to counsel, make themselves at least arguably subject to traffic stop, reflects consistently the racial distribution of the Turnpike Census itself.

To test the fundamental assumption that blacks in effect drive no worse than whites, we pursued a secondary traffic census to determine the racial composition of the driver population that violates the New Jersey traffic laws on the Turnpike. As noted supra, the percentage of cars exceeding 60 miles per hour is 98%. In effect, it is virtually equal to the traffic population as a whole. Unsurprisingly, the percentages of black motorists who fall into the category of those exceeding the speed limit is within the same range in terms of statistical significance as the population of black travelers on the Turnpike as a whole. That is, the full blown Traffic Census shows that blacks make up 13.5% of the Turnpike population; violation census shows that blacks make up 14.82% of the cars moving over 60 miles per hour. This variance is not statistically significant. This comparison thus validates the assumption that blacks do not violate the traffic laws out of proportion to their numbers in the Turnpike population as a whole or the general population as a whole. The assumption undergirding this analysis—that blacks do not drive any worse than whites as a group, appears to be validated.

An in-state/out-of-state analysis of stops of blacks as reflected in the radio logs, as compared to the demographics of the turnpike census, provides one final and compelling

conclusion. The proportion of stops of out-of-state blacks is 28.9%; the proportion of out-of-state blacks in the Turnpike census is 10.8%. These figures suggest an extremely statistically significant, racially oriented disparity when one considers that the population of stops as a whole, compared to the turnpike census, do not show any discriminatory impact upon out of state drivers as a whole.

That is, on the highway census, 23% of the stops are of New Jersey drivers; 77% are of out-of-state drivers. These proportions also prevail for the entire "stop population" as reflected in the patrol activity log reports. On the patrol activity log reports, one indicator of in-state versus out-of-state stops, 666 of 2896 are New Jerseyites, again roughly 23%. Thus, the distribution of traffic stops as between in-state and out-of-staters appears accurately to reflect the highway population – leading to the conclusion that ou-of-staters qua out-of staters are not stopped in proportions differing from their incidence in the turnpike population. On the other hand, and in marked contrast, the comparative proportions of out-of-state blacks stopped, on one hand, and out-of-state blacks percentage of the general turnpike population, differs substantially. The Turnpike census shows that 10.8% of the travelers on the turnpike are ou-of-state blacks. The stop data from the radio logs, on the other hand, shows that 28.9% of the stops are ou-of-state blacks. One would expect, if race was not a factor in the generation of those stops, that the percentage of out-of-state blacks stopped would be around 10 or 11% of the total race identified stops on the radio logs. Instead of that correspondence, we find almost three times the proportion of stops of out-of-state blacks in the radio logs as compared to the percentage of out-of-state blacks in the general highway population. The absolute

disparity is 18.1%, the comparative disparity is 168%. The number of standard deviations is 18.10, a highly statistically significant result.

CONCLUSION

The present study demonstrates substantially and highly statistically significant disparities between the percentage of blacks in the turnpike population (and likewise the population of turnpike violators), and the percentage of blacks subject to investigate stop. Even more dramatic disparities emerge from a comparison of the racial composition of the general turnpike population and the racial composition of the arrests over a three-year period.

The statistical disparities likewise emerge dramatically with respect to the comparison of the numbers of out of state blacks in the general turnpike population versus the number of out-of-state blacks stopped. Put bluntly, the statistics demonstrate that in a population of blacks and whites which is (legally) virtually universally subject to police stop for traffic law violation, (cf. the turnpike violators census), blacks in general are several times more likely to be stopped than non-blacks. Likewise, out-of-state blacks are disproportionately the subject of investigative stops.

While no one can know the motivations of each individual trooper in making a stop, the statistics presented herein, representing a very broad and detailed sample of highly appropriate data, demonstrate without question a discriminatory impact on blacks and out of state blacks in particular from state police behavior. The disparities are sufficiently great that, taken as a whole, they consist strongly with and strongly support the assertion that the state police have targeted the community of black motorists or travelers for investigation, stop and arrest.